Kernels appearing

Table 26

Phenotypes of kernels appearing on ears of variegated plants in cultures 6665 and 6666 that were $a_1^{m-1}Sh_2/a_1\,sh_2$ Y y in constitution. The very few kernels that were A_1 are not included in this table.

Constitution of ♂ in cross	Spm Constitution of ♀	number of ears	Pale Sh2 Y	Pale Sh2 y	Pale sh2 Y	Pale sh2 y	Variegated Sh2 Y	Variegated Sh2 y	Variegated sh2 Y	Variegated sh2 y	Colorless Sh2	Colorless sh2	Totals
I 1) $a_1\,sh_2$ y tester stock	Y Spm/y +	15	534	533		2	818	534	1	1	2	2745	5470
2) 6665 E-10-I	Y/y 2 Spm [1)]	1	32	34	0	0	64	61	0	0	0 0	211	402
" E-10-I	"	1	13	24	0	0	55	54	0	0	0 0	158	304
3) 6666 C-1-I (see below)	[Y/y 1 Spm]	1 [2)]	43	47	0	0	31	35	0	0	1	142	299
4) 6666 C-2 tiller	Y Spm/y +	1	40	74	0	0	71	41	0	0	0	227	453
5) 6666 C-7 tiller	[Y Spm/y +]	1	18	26	1		6	3	0	0	0	55	109
II ♂ $a_1^{m1}Sh_2$ pale plant stock 5718	Y Spm/y +	6	311	587			579	307			0		1784
6666 C-2-I	[Y/y 1 Spm] [4)]	1	122	129			144	121			0		516
6666 C-7-I	Y/y 1 Spm [3)]	1	39	31			10	17			0		97
III ♂ $a_1^{m1}sh_2/a_1 sh_2$ pale plant. 6678 6665 E-2-I	Y Spm/y +	1	54	70	23	31	66	48	33	20	0	130	475
IV 6665 E (1) tiller self-pollinated	Y Spm/y +	1	34	23	0	0	131	30	0	0	0	75	293

4) = Y Spm/y + in next generation (= 6869)

3) = Y Spm/y + in next generation = (6868)

Variegated pericarp = (6895) = all tramp tillers - I

1) Confirmed in next generation (6864, 6862)

6665 E 6666 C. 1/y

I ♂ $a_1 sh_2 y$

1 sm l y +

6665 E-① ✓
" E-② I ✓
" E ③ I ; I ✓
" E ④ I ✓
" E ⑤ I ✓
" E-6-I ✓
" E-7 I ✓
" E-8-I ✓
" E-9-I pr ✓
✓ " E-10 I-+I (1 spm) ✓

6666 C

C-① I
C ② II ½/y 1 Spm
C ② I 1 spm l y + ✓
C ③-I ✓
C ③-I ✓
C-4-I ✓
C 5-I ✓
C-6-I ✓
C-7-I ✓

II ♂ $a_1 m\ sh_2$ 5718

6665 E ② I
6665 E ④ I
6665 E ⑤ I
6665 E ⑧ I

6666 C ② I ✓
6666 C-⑤ I
6666 C-⑥ I
6666 C ⑦ I-pr ✓

III ♂ $a_1 m\ sh_2 / a_1 sh_2$ 6678 ✓

6665 E-2 I

IV self-pollinated

6665 E ① I

Table 27

Types of kernels appearing on ears of a_1 plants in cultures 6665 and 6666 that were $a_1 m_1 Sh_2 / a_1 sh_2$, yly in constitution. The few kernels with the A, plant type are not included in the table.

Constitution of ♂ in Cross.	Spm Constitution of ♀	No. of ears.	Phenotype of kernel: Pale Sh₂	Pale sh₂	Variegated Sh₂	Variegated sh₂	Colorless Sh₂	Colorless sh₂	Totals
$a_1 sh_2$ Tester stock	1 Spm	6	566	1	507	0	1	1147	2222
II $a_1 m_1 Sh_2 / a_1 m_1 Sh_2$ stock 5718 [Tester I Table 19]	1 Spm	1	114		82				196 + [illegible]
Stock 5719A-1 [Tester I Table 19]	1 Spm	5	502		517				1019
III $a_1 m_1 Sh_2 / a_1 sh_2$ pale plant 6678 [Tester I, Table 19]	1 Spm	1	101	37	96	45	0	98	377

Over a.mi sh2/a.sh2 y/y cultures 6665 F and 6666 D

I by a.sh2 beta stab

6665 F ① I
" F ① T
" F ② I

6666 D ③ - I
" D ③ - T
6666 D - ⑤ I

II by a.mi sh2 pale
state 5718
6666 D - 4 - T

III by a.mi sh2 pale
state 5719A-1

6665 F ① T
6666 D ① I
6666 D ② I
6666 D ③ II
6666 D ⑤ T

IV By a.mi sh2/a.sh2 pale
6665 F ③ I + 6678

Table 28

Spm constitution of plants derived from selected kernels on ears produced by plant 6629A-1.

Phenotype of kernel from which plant arose	Number of plants tested	Appearance of plant	Number of plants having Spm	Spm number in plants having it and its location with respect to the alleles of Y in Y/y plants.
Pale, Sh_2, Y	3	Uniformly pigmented	0	-------
Pale, Sh_2, y	10	Uniformly pigmented	0	--------
Variegated, Sh_2, Y	17	Variegated	17	16 Y Spm / y + 1, 2 Spm, neither linked to Y
Variegated, Sh_2, y	8	Variegated	8	1 Spm in all 8 plants
Variegated, sh_2, Y	1	Variegated	1	Y Spm / y +
Colorless, sh_2, Y	30	Non-pigmented	15	14 Y Spm / y + 1 with 1 Spm, not linked to Y
Colorless, sh_2, y	24	Non-pigmented	6	1 Spm in all 6 plants

Table 29

Recombination between Y and Spm in test crosses of Y Spm/y+ parents and their offspring that were a_1 sh_2/a_1 sh_2, Y Spm / y + .

Cultures	Number of ears	Phenotypes of Kernels				Totals	Percent Recombination
		Pale		Variegated			
		Y	y	Y	y		
6629A (See table 20)	5	155	303	309	180	947	35.3
6665G, 6666G, 6670E, 6673F* 6674F	26	1653	2922	2838	1530	8943	35.5

*On 7 ears produced by 6 plants in culture 6673G a partical inhibitor of Y expression was segregating among the kernels. Although linkage of Spm with Y was certain, exact classification for Y in every kernel could not be made. The kernel types on these ears are excluded from the table. There were a total of 2359 kernels on these 7 ears, 1244 were pale and 1115 were variegated.

Table 30

Spm number and location in plants of culture 6629 as determined by tests of the progeny of each.

Plant Number in Culture 6629	Spm Number and Location
A-1	Y Spm/y +
A-2	Y Spm Spm / y + + and 2 other Spm, one linked to pr in main stalk but not linked to pr in tiller
A-3	Y Spm / y +
A-4	Y Spm / y +
A-5	Y Spm / y + and 1 Spm, location not determined
A-6	Y Spm / y +
A-7	Y Spm / y +
A-8	Y Spm Spm / y + + +
A-9	Y Spm / y +
B-1	y Spm / y + *
B-2	y Spm / y + * and 1 other Spm not located
B-3	1 Spm; location not determined but not linked to pr
B-4	1 Spm; location not determined but not linked to either pr or wx
B-5	Pr + + / pr Spm Spm
B-6	2 Spm; locations not determined but neither linked with pr
B-7	1 Spm; location not determined but not linked to pr or wx
B-9	3 Spm; locations not determined but none linked with either pr or wx. One probably in a_1^{m-1} carrying chromosome 3

*Determined from tests of progeny in next generation after introduction of Y

Table 31

Spm number and location in progeny of plant 6629A-8 (culture 6676)

Spm Constitution	Approximate Ratio Pale:Var.	number of Plants	number of Ears	Phenotypes of kernels carrying a_1^{m-1} Pale Y	Pale y	Variegated Y	Variegated y	Total	Y : y	
Parent Plant 6629A-8 Y Spm Spm / y + +	1 : 2	1	1	19	56	66	53	194	85	109
Culture 6676										
Y Spm / y +	1 : 1	14	18	655	1508	1330	647	4140	1985	2155
Y Spm Spm / y + +	1 : 2 -	3	4	35	296	411	169	911	446	465
Y Spm Spm / y + +	1 : 2 +	13	14	224	475	864	690	2253	1088	1165
Y Spm Spm / y + + 6676B-7 1st ear, main stalk				46	59	88	71	264		
Y Spm / y + 2nd " "				37	62	49	39	187		
Y Spm Spm / y + + 6676C-4 1st ear, main stalk				48	147	181	84	460		
y / y 1 Spm	1 : 1	3	3	–	568	–	552	1120		
y / y 2 Spm	1 : 3	1	1	–	35	–	93	128		

Table 32

Spm constitutions in plants derived from colonies, nos 2, 4 clear of haustorium tiles on ear of plant 6629 A-2

Culture 6667 Plant	Spm Constitution	Phenotypes of kernels segregating a.m-1 Pale Y	Pale y	Dark (colored) Y	Dark (colored) y	Totals	Y	y
F-8	1Spm/y +	54	119	127	50	350		
F-11	Y Spm Spm/y++	6	102	121	39	268	127	141
F-9	Y/y; 2 non-linked Spm	42	62	135	142	381		
F-1	Y Spm/y+ plus 1 Spm	33	57	133	100			
G-11	Y Spm Spm/y++ plus 1 Spm	16	57	157	108			
F-5	" + 2 Spm	2	21	120	107			
F-2	3 Spm; 1 probably in Y chs.	11	32	162	148			
F-6	" " " " "	13	30	149	129			
F-3	3 Spm	26	17	118	126			
F-10	3 Spm	5	4	45	44			

Table 33

Progeny from segregated kernels derived from Y class on ear of plant 6667 F-11 (Culture 6884)

Spm Constitution	No. of plants	no. of ears	Phenotypes of kernels segregating a.m-1 Pale Y	Pale y	Dark (colored) Y	Dark (colored) y	Totals	Y : y	
Y Spm/y +	2	2	95	210	185	77	567	280	287
Y Spm/y +	1	1	31	200	163	29	423	194	229
Y Spm Spm/y ++	12	12	138	868	1330	616	2952	1468	1484
Y Spm/y + and 1 non-linked Spm	2	2	55	137	260	230	682	315	367

Plants from the a.b.y kernels.

6667 G ①	23 pale : 214 var	3 Spm	no Endosp Proteox
" G ②	38 " : 109 var	3 Spm	
" G ③	159 " : 163 var	- 1 Spm	- " "
" G ④	128 " : 184 "	- 2 Endosp Spm	" "
" G ⑥	35 pale Wx : 8 pale sh : 47 var Wx : 80 var. sh		Wx + 1 sh Spm + Spg
" G ⑦	177 pale : 154 var.	no Endosp Protein Wx	1 Spm
" G 8	170 " : 304 var	" " "	- 2 Spm
" G 9	155 " : 144 "	" "	" 1 Spm
" G 11			

1 Spm = G ③ G ⑨ ⑦ = 3

2 Spm = G ⑥ (1 sh to sh) G ④ G ⑧ = 3

3 Spm = G ①, G ②,

Table 34a.

Linkage of Spm with Pr in plant of progeny of 6629A-2; plant 6668C-6, and progeny of this plant in culture 6877.

Spm constitution	Parentage in crosses	No. of ears	Phenotype of a-m1 kernels on ear: Pale Pr	Pale pr	Variegated Pr	Variegated pr	Total	% Recombinants
Pr + / pr Spm 6668C-6	♀	1	257		24	195		12
6877A-1	♀	1	33	170	156	26	385	15.3
	♂	2	36	196	157	18	407	13.2
	♂	2	251		170	36	457	
6877A-2	♀	1	28	255	294	25	602	8.8
	♂	2	30	202	161	14	407	10.8
6877A-4	♀	1	61	124	126	58	369	32.2
Pr/pr; 1 Spm								
6877A-3	♀	1	142	137	112	112	503	0
" A-5	♀	1	116	118	83	77	394	0
" B-3	♀	1	125	125	122	121	493	0

Table 35

Linkage of Spm with wx in plant 6668C-3 in the progeny of plant 6629-A2 and its location in the progeny of plant 6668C-3

Spm constitution				Phenotypes of germinal kernels on test ear					Percent
				Pale		Variegated		Total	Recombinants
				Wx	wx	Wx	wx		
Wx + | wx Spm + 1 non-[illegible] *									
6668C-3				100	30	123	212	465	
Wx Spm | wx +									
6872A-8				40	193	160	28	421	16.1
6872A-12 main ear				26	196	197 ‡	18	438	10.4
" " 12 tiller ear				38	81	89	29	237	28.2
6872A-15 main ear *				63	185	153	48	449	24.7
A-15 tiller ear †				55	148	129	41	373	25.7

* Two sectors on this ear in which all kernels were pale, each on upper part of ear and 2 rows wide; 34 kernels, [illegible]

† Pale sector on lower ear; [illegible] Wx : 6 wx

‡ Origin of cultures 7285-[illegible] and 7330-34

6872 = 30 plants tested:

1 = [Inactivated Spm] or no Spm

1 = only small sector in which no kernels appeared; 49.7A, kernels in it

19 = 1 Spm, not linked to Wx or Pr

3 = 1 Spm, linked to Wx - in table

3 = 2 linked Spm elements, not with Pr or Wx

1 = 2 non-linked Spm elements

1 = 3 Spm elements

pale sectors on 5 of the 41 ears obtained from the 29 plants with Spm

Table 36

TABLE 36. *Spm* Constitution and Location in Different Plants of a Culture and in Different Parts of Individual Plants

Plant No. in Culture 7285	No. of Ears Tested per Plant	Position of Ear in Plant	*Spm* Constitution and Linkage with *Wx*
A-6, B-1, and B-6	1	1st ear, main stalk	1 *Spm;* linked with *Wx*
B-4	1	1st ear, main stalk	2 *Spm;* one linked with *Wx*
A-5	2	1st and 2nd ears, main stalk	2 *Spm;* one linked with *Wx* (both ears)
B-2 and B-5	2	1st ear, main stalk; tiller ear	1 *Spm;* linked with *Wx* (both ears)
A-1	3	1st and 2nd ears, main stalk	1 *Spm;* linked with *Wx*
		Tiller ear	1 *Spm;* not linked with *Wx*
A-3	3	1st and 2nd ears, main stalk	2 *Spm;* one linked with *Wx*
		Tiller ear	1 *Spm;* linked with *Wx*
A-4	3	1st and 2nd ears, main stalk	1 *Spm;* not linked with *Wx*
		Tiller ear	(all three ears)
A-2	3	1st ear, main stalk	1 *Spm;* linked with *Wx*
		Ear on one tiller	1 *Spm;* linked with *Wx*
		Ear on another tiller	No *Spm*
A-7	4	1st and 2nd ears, main stalk; ear on each of two tillers	1 *Spm;* linked with *Wx* (all four ears)

Table 37

Phenotypes of kernels on testcross ears of plants in culture 7285 that were Wx Spm / wx + in constitution.

Plant Number	Position of ear in plant	Phenotypes of kernels on ear: Pale colored Wx	Pale colored wx	Variegated Wx	Variegated wx	Total
A-1	First ear, main stalk	25	63	73	15	176
A-1	Second ear, main stalk	40	116	123 [1]	26	305
A-2	First ear, main stalk	27	99	78	19	223
A-2,	Second tiller	4	63	51 [2]	8	126
A-3	Tiller ear	22	72	78	16	188
A-6	First ear, main stalk	32	92	67	41	232
A-7	First ear, main stalk	23	95	93	18	229
A-7	Second ear, main stalk	28	120	136	15	299
A-7	Tiller ear	16	79	93 [3]	21	210
A-7	Tiller ear	19	57	51	22	149*
B-1	First ear, main stalk	8	103	114	17	242
B-2	First ear, main stalk	37	134	123	17	311
B-2	Tiller ear	23	92	62	22	199
B-5	First ear, main stalk	53	158	164	50	425
B-5	Tiller ear	46	110	103	33	292
B-6	First ear, main stalk	15	86	103 [4]	16	220

*There was a large sector on this ear in which only pale kernels were present. These are not included in the table.

1) origin of plants in culture 7330
2) origin of plants in culture 7332
3) origin of plants in culture 7333
4) origin of plants in culture 7334

Table 38

culture 7285

TABLE 1. Phenotypes of Kernels on ~~Two Ears of 1 Plant (A), and on~~ Twenty-Five Ears Produced by 12 Plants ~~in Its Progeny (B)~~ culture 7285

~~Kernels in A derived from cross of ♀ a_1^{m-1}/a_1^{m-1} Wx/wx × ♂ a_1^{m-1}/a_1^{m-1}, wx/wx; no *Spm*; in B, from cross of~~ ♀ a_1^{m-1}/a_1^{m-1} or a_1^{m-1}/a_1, Wx/wx × ♂ a_1^{m-1}/a_1^{m-1}, wx/wx, no *Spm*.

No. and Location of *Spm* in ♀ Parent	Phenotype of Kernel: Deep Color (germinal mutation) *Wx*	Deep Color (germinal mutation) *wx*	Pale Color (no *Spm*) *Wx*	Pale Color (no *Spm*) *wx*	Colorless with Spots of A_1 (*Spm* present) *Wx*	Colorless with Spots of A_1 (*Spm* present) *wx*	Total No. of Kernels
~~A~~							
~~1 *Spm*; linked with *Wx*~~	~~0~~	~~1~~	~~26~~	~~196~~	~~197~~	~~18~~	~~438~~
	~~0~~	~~0~~	~~38~~	~~81~~	~~89~~	~~29~~	~~237~~
~~B~~							
1 *Spm*; linked with *Wx*	0	0	418	1539	1512	356	3826
2 *Spm*; one linked with *Wx*	0	0	79	267	594	323	1263
1 *Spm*; not linked with *Wx*	0	0	190	168	140	174	672

Cultures 3330, 3332-3334

Table 39

TABLE ~~12~~ *Spm* Constitution and Location in Different Plants and in Different Parts of Individual Plants

No. of Ears Tested per Plant	Position of Ear in Plant	No. of Plants	*Spm* Constitution and Linkage with *Wx*	No. of Plants with Given Constitution
1	1st ear, main stalk	13	1 *Spm*, linked with *Wx*	9 *
			2 *Spm*, neither linked with *Wx*	3
			No *Spm*	1
2	1st and 2nd ear, main stalk	1	1 *Spm*, linked with *Wx*	1
2	1st ear, main stalk Tiller ear	15	1 *Spm*, linked with *Wx*, in both ears	10
			1 *Spm*, linked with *Wx*, in 1st ear; 1 *Spm*, not linked with *Wx*, in tiller	1
			1 *Spm*, linked with *Wx*, in 1st ear; 2 *Spm*, one linked with *Wx*, in tiller	1
			2 *Spm*, one linked with *Wx*, in both ears	1
			1 *Spm*, not linked with *Wx*, in both ears	2
3	1st and 2nd ear, main stalk Tiller ear	6	1 *Spm*, linked with *Wx*, in all three ears	3
			1 *Spm*, linked with *Wx*, in 1st and 2nd ears, main stalk; 2 *Spm*, neither linked with *Wx*, in tiller	1
			2 *Spm*, one linked with *Wx*, in 1st ear; 1 *Spm*, linked with *Wx*, in 2nd ear; no *Spm* in tiller	1
			2 *Spm*, one linked with *Wx*, the other linked with *Pr*, in all three ears	1
3	1st ear, main stalk Ear on each of two tillers	2	1 *Spm*, linked with *Wx*, in all three ears	2

* One ear with sector in which *Spm* was absent.

Table 4c

Phenotypes of kernels on ears ~~in which the cells of every shoot cor. were Wx Spm/wx + in constitution~~ of plants in cultures 7330, 7332 to 7334. Position of ear: I, First ear, main stalk; II second ear, same stalk, t = tiller ear.

Phenotypes of kernels

Culture	Plant no.	Position of ear	Spm Constitution	Pale Wx	Pale wx	Variegated Wx	Variegated wx	Total	
7330-1		I	Wx Spm/wx +	35	97	90	13	235	
		II	" "	27	67	83	20	197	
		t	" "	8	23	28	13	72	
7330-2		I	" "	29	101	87	26	243	
(1) 7330-3		I	" "	30	125	109	17	281	
		t	" "	13	82	78	7	180	
(2) 7330-6		t	" "	24	63	74	15	176	
7330-7		I	" "	9	95	117	7	228	
7330-8		I	" "	24	103	80	11	218	
		II	" "	2	25	20	2	49	
7330-9		I	" "	54	113	106	33	306	
(3)(4)		t	" "	25	85	82	21	213	
7330-11		I	" "	29	110	118	28	285	
-12*		I	" "	42	89	88	21	240	* ear = nearly all pale
-5		I	" "	4	8	9	4		
7332	1	I	" "	19	153	153	20	345	
	1	t	" "	17	62	91	9	179	
	2	I	" "	26	67	33	13	139	
	4	I	" "	20	77	98	16	211	
(5)	4	t	" "	6	77	74	10	167	
	7	I	" "	4	29	28	3	64	
	7	II	" "	20	72	65	20	177	
	7	t	" "	12	50	53	15	130	
	8	I	" "	8	41	35	9	93	
	8	t	" "	48	145	118	33	344	
				29	96	83	31	239	
7333	1	I		11	80	72	13	176	
	1	t		8	43	34	9	94	
	1	t		10	29	42	13	94	
	2	I		34	111	130	20	295	
(6)	3	I		23	122	131	17	293	
(7)	4	II		11	68	60	14	153	
(8)	9	I		24	143	138	12	317	
(9)	9	t		5	60	41	9	115	
	9	t		13	29	37	15	94	
(10)									
7334	1	I		14	101	85	17	217	
	1	t		10	40	34	6	90	
	2	I		23	144	111	15	293	
(11)	2	t		29	102	91	32	254	
(12)	5	I		7	25	23	3	58	
(13)	6	I		12	51	48	5	116	
	6	t		17	55	74	5	151	
	7	I		19	51	64	12	146	
	7	t		2	20	17	3	42	
	7	t		8	32	37	3	80	
	8	I		10	154	184	15	363	
	8	t		4	37	48	5	94	

[illegible]

3334 -	9	=	4	55	44	7	110
	9	t	26	104	89	34	253

Wt Spur / mt + plus 1 Spur		Pale		Var.		Total
		Wt	mt	Wt	mt	
(1) 7330-2	Tiller ear.	8	51	72	33	164
(3) 7330-10	I	4	42	99	46	191
2 " -10	II	5	51	92	43	191
(5) 7332-5	I	23	47	60	56	186
2 " -5	tiller	6	26	34	21	87
(6) 7333-4	I	6	28	90	51	175
(11) 7334-3	I *	14	69	150	87	320
" -3	II	0	3	7	4	14
" -3	tiller.	16	39	93	51	199
	Totals	82	356	697	392	1527
Wt/mt 2 Spur						
(2) 7330-4	I	44	50	87	78	259
(4) 7330-10	tiller	32	38	70	72	212
	Totals	76	88	157	150	471
(9) 7333-7	I	24	31	67	64	186
(12) 7334-4	I	11	29	65	58	163
		35	60	132	122	349
Wt/mt 1 Spur						
(8) 7333-6	I	67	55	55	57	234
" 6	tiller	27	30	24	35	116
(10) " -10	I	69	75	55	71	270
" -10	tiller	54	64	48	50	216
(13) 7334-5	tiller	39	61	39	31	170
	Totals	256	285	221	244	1006
no Spur						
(7) 7333-4	tiller	15	16			31

Table 41 A

Summary of Spm constitutions of plants in cultures 7330, 7332-34.

Spm constitution	no. of Ears	Pale		Variegated		Totals
		wx	wx	wx	wx	
wx Spm / wx +	48	884	3703	3625	697	8909
wx Spm / wx + plus 1 Spm	9	82	356	697	392	1527
wx / wx ; 1 Spm	5	256	285	221	244	1006
wx / wx ; 2 Spm, not linked	2	35	60	132	122	349
wx / wx 2 Spm, linked	2	76	88	157	150	471

table 41 B

Summary of Linkage of Spm with wx in successive years.

wx Spm / wx +	Culture	Year					Totals	% recombinants
	6872	1955	222	747	784	164	1917	20.1
	7285	1956	418	1512	1539	356	3825	20.2
	7330	1957	351	1178	1160	234	2923	20.0
	7332	"	209	869	831	179	2088	18.2
	7333	"	139	685	685	122	1631	16.0
	7334	"	185	971	949	162	2267	15.3

Table 42.

Culture	Spm constitution			No. of ears	Phenotype of kernels on test crosses: Pale Wx	Pale wx	Variegated Wx	Variegated wx	Total
Parental ear: 7285 A-1	Wx/wx	1 Spm		1	25	26	30	26	107
Progeny: 7331	Wx/wx	1 Spm	1 ear from 5 plants, 4 ears from 1 plant		561	557	499	561	2178
7331B-5	Wx/wx	2 Spm (linked)	I and I tiller	2	58	60	117	150	385
	Wx/wx	1 Spm	tiller	1	46	51	39	35	171
7331-A-2	Wx/wx	2 Spm (linked)	I, II, I	3	90	90	204	213	597
7331B-3	Wx/wx	3 Spm		1	19	13	77	85	194
7331A-6	Wx/wx	3 Spm (linked)	I, II, I	3	46	60	247	224	577
7331B-2		3 Spm (2 linked)	I, I	2	34	32	145	145	356

Table 43.

Spm constitution and location in the progeny of plant 6895 A-1

Part II

Culture 7260

Plant No	Position of Ear		Phenotypes of a-m1 kernels on test cross ear: Pale Y	Pale y	Variegated Y	Variegated y		Total
1	I		5	117	110	0		232
	t-1		12	103	120	9		244
	t-2		8	125	130	9		272
3	I		2	72	58	2		134
	II		2	104	87	0		193
	t-1		5	77	71	3		156
	t-2		7	55	56	4		122
4	I		0	126	131	4		261
	II		9	117	140	1		267
	t		5	146	116	4		271
5	I		1	34	26	0		61
	II		1	21	22	2		46
6	I		9	133	162	8		312
	II		6	146	134	4		290
	t		2	88	68	1		159
7	I		5	119	119	6		249
	t		12	133	138	12		295
8	I		3	131	116	13		313
	II		2	124	125	17		268
	t-1		6	131	100	6		243
	t-2		5	144	129	2		280
10	I		9	131	130	2		272
	II		3	95	88	5		191
	t		7	92	77	4		180
11	I		6	159	148	4		317
	II		6	156	166	5		333
	t		8	153	122	4		287
12	I		5	172	163	1		341
	II		12	124	122	2		260
	t-1		7	170	170	6		353
	t-2		4	82	85	3		174
14	I		18	137	127	9		291
	t		6	134	124	3		267
15	I		7	116	110	5		238
	t-1		8	99	93	6		206
	t-2		4	87	102	6		199
18	I		7	122	125	2		256
19	I		4	139	110	2		255
	t-1		10	108	96	4		218
	t-2		4	111	104	7		226
Totals				4908	4551			

Table 43, continued

Part III

Plant no. in culture	Position of Ear		Pale Y	Pale y	Variegated Y	Variegated y		Totals		
7260										
2	I		25	203	171	11		410		
	t		65	47	48	59		219		
16	I		3	68	78	2		151		
	sector:		2	7	3	3		15		
17	I		1	91	20	1		113		
IV pr. [illegible]										
Part I	Kernel type on the [illegible] ears [illegible] produced by plant 6895 A-1 [illegible]									
			10	157	153	9		229		

Table 44

Spm constitution in the progeny of plant 6895B-3

Plant Number in culture	Position of ear in plant	Phenotype of kernels on test-cross ear. Pale Wx	Pale wx	Variegated (Spm fully active) Wx	Variegated (Spm fully active) wx	Variegated (Spm partially active) Wx	Variegated (Spm partially active) wx	Total	Comments
Parent plant 6895B-3	I	91	184	117	75			467	
Progeny Plants Culture 7261									
Wx Spm/wx + in some part of plant									
2	I	89	140	124	55			408	
5	I	83	102	117	77			379	
	tiller	15	26	35	43			119	Deficiency in Wx class
6	I	46	98	76	47	0	3	270	
	II(no Spm)	49	64	0	0	0	0	113	
	Tiller-1	22	24	38	25	1	8	118	
	Tiller-2	31	60	51	30	6	9	187	
8	I	64	77	66	43			250	
	Tiller	12	29	33	20			94	
16	I	87	120	94	64			365	
Wx Spm/wx + plus one Spm									
10	I	96	16	103	147			362	Spm in wx dominant
	Tiller	21	47	100	105			273	
1 Spm, not linked with Wx									
1	I(see text) Tiller	95	91	76	83			345	
3	I	84	88	100	93			365	
	Tiller	63	63	68	83			277	
9	I	62	75	46	36			219	
12	I and II,see text	56	33	50	41			162	
	Tiller	103	90	92	89			374	
15	I	99	93	64	69			325	
17	I	51	61	47	53			212	
18	I	102	87	90	95			374	
19	I	85	90	98	94			367	
1 Spm in one part of plant, 2 Spm in other part									
11	I	50	55	45	32			182	
	Tiller	76	65	132	130			403	
2 Spm in two parts of a plant									
7	I	27	22	100	90			239	
	Tiller	20	33	59	60			172	

Table 45

Spm constitution in the progeny of plant 6704B 4 That was Y Spm/ $\frac{1}{4}$ +

Cultures	Plant number	Phenotypes of germinating kernels from ears: Pale Y	Pale y	Variegated Y	Variegated y	Total	
Part I							
6704B-4		30	178	170	38		
Part II							
6885A-	1	38	132	114	44	328	
	2	27	161	144	27	359	
	4	31	172	154	17	374	
	5	28	186	150	18	382	
	6	48	125	130	32	335	
	7	40	234	222	54	550	
	8	30	196	151	34	411	
	9 *	51	238	230	46	565	
	10	37	174	174	53	438	
	11	32	157	149	25	363	
	12	43	113	125	40	321	
	13	41	153	155	32	381	
	14	34	164	199	51	448	
	15	45	161	155	38	399	
6885B	1	20	156	139	24	339	
	4	23	136	154	34	347	
	5	35	192	164	44	435	
	6	28	142	153	31	354	
	7	52	172	171	40	435	
	Totals	683	3164	3033	684	7564	18.7% recombinants
Part III							
6885B	2	117	112	101	100	430	
✓	8 †	9	17	63	29	118	
	9	30	101	252	152	535	

→

* a sector in which all kernels were pale was present on the ear. The kernels in the sector are not included in the table

† There is a deficiency in the y classes. Kernels are lost from unknown

Table 46

Phenotypes of kernels on test cross ears.

Plant number	no. of ears.	Pale		Variegated		Total
		♀	♂	♀	♂	
6671 F-1	1	28	66	66	29	189
6672 E-3	1	89	217	185	65	556
6672 E-1	1	43	66	159	135	403

Table 47

Plant number	Number of Ears	Phenotype of kernels on Test Cross ear				Totals
		Pale		Variegated		
		Wx	wx	Wx	wx	
6671F-2	1	156	40	29	140	365
6672E-4	1	128	89	85	119	421
Progeny from Recombinants Crossed on Ear of 6671F-2						
6873A-1,3, B-2,3,4,5,6 1Spm	13	1152	1216	995	1003	4366
6873A-3 2Spm	2	52	66	197	208	523
6873B-1 3Spm	3	89	79	572	561	1301

Table 48

the variegated, Y class of

Number and location of Spm in ~~the progeny~~ plants derived from kernels on testcross ear of ~~the~~ main stalk of plant 6666C-2

Plant Number in culture 6869	Phenotype of a_1^{m-1} carrying kernels on testcross ears				
	Pale		Variegated		
	Y	y	Y	y	Total
1 Spm, linked with Y					
1	66	109	112	35	322
3	98	157	188	89	532
4	81	103	145	87	416
5	45	137	130	72	384
6	84	136	107	102	429
7	93	107	109	92	401
1 Spm, not linked with Y					
2	52	42	35	41	170
8	74	84	76	63	297
2 Spm, neither linked with Y					
9	36	38	69	58	201

Table 49

Spm constitution in progeny of plant 6665G-16 derived from the Y, variegated class of kernels on its testcross ear.

Culture Number	Phenotypes of kernels on test cross ear				Totals
	Pale		Variegated		
	Y	y	Y	y	
6866 (7 plants)	581	713	628	543	2466
6866-2	51	171	170	175	467
6866-5	16	15	95	110	236

Table 50

The Spm constitution in the progeny of plant 6665G-21.
Plants in culture 6863 were derived from the Y class of kernels on the self-pollinated ear of a tiller of plant 6665G-12. Plants in culture 6869 were derived from the variegated class of kernels on the testcross ear of plant 6665G-21.

Culture Number of tested plants	Phenotypes of kernels on testcross ears				
	Pale		Variegated		
	Y	y	Y	y	Total
6863-1, -2, -4, -6	477	500	455	462	1894
6863-7	199	0	169	0	368
6863-3, -9	3	4	259	281	547
6867 (15 plants)	1536	1664	1544	1654	6398
6867-9	68	92	82	61	303
6867-18	82	75	203	201	561